

I claim:

1. A reclining wallhugger bed comprising;

a mattress, at least one linear actuator, two sections of track, a calves section and a thigh section having elevating double bar feet elevating mechanism whereby said calves section remains substantially horizontal during feet elevation, a back section that reclines having the head edge move vertically maintaining a substantially constant distance to wall, a buttocks section that moves in a horizontal direction as said back section is being reclined, a carriage that moves said calves section, said thigh section, said back section, at least one said linear actuator and said buttocks section horizontally on said track, a frame that holds said track and said carriage,

improvements comprising;

wherein said thigh section and said calves section form a single acting rigid coplanar leg section that reclines pivotally below the horizontal plane of the said buttocks section in a downwardly direction pivotably about adjoining edge with said buttocks section.

2. The bed of claim 1 further including said buttocks section to recline pivotably in an upward direction about the adjoining edge of said back section wherein buttocks foot edge of said buttocks section is elevated from the floor whereby clearance is provided for greater degree of downward tilt for said coplanar leg section, whereby a sit-up position with legs angled in a downward direction can be obtained from a conventional bed surface height, and whereby the body weight is transferred from the lower back to the lower thigh area of the body as the bed is reclined to the sit up position and whereby a permanently attachable desk becomes practical.

3. The bed of claim 2 further including at least one arm rest, a swing arm, and a variable position swivel lock wherein said arm rest is attached to said swing arm and said swing arm attached to said bed wherein said arm rest is pivoted substantially horizontally from a location beside said bed into a position over said bed and is locked into said position by said swivel lock, whereby the said swing arm, said arm rest provide bodily support at various positions of entering and exiting the bed by locking and unlocking said swivel lock

and whereby a shock resistance working surface is readily secured at various positions along wall, bed side and seating positions.

4. The bed of claim 3 further including a desk, electrical and phone receptacles wherein said desk and said electrical and said phone receptacles wires are secured to said swing arm whereby internet and phone service, clock radios, computers, televisions, lamps and electrical devices can be readily accessible and whereby the sit-up bed can be used as an office or recreational furniture.

5. The bed of claim 2 further including a pivot fixture, at least one transfer link, at least one projection and at least one stop, at least one connecting bar, and at least one lock spring,

said transfer link having three pivot points wherein the lower transfer link pivot point is connected to said linear actuator, the foot end pivot is pivotably connected to said connecting bar and opposite end of said connecting bar pivotably connected to said feet elevating mechanism, and the pivot of said transfer link located between said lower pivot and said foot end pivot is pivotably connected to said pivot fixture, said pivot fixture is pivotably connected at axial pivot location of pivot between said buttocks section and said thigh section, wherein

while said thigh section and said calves section are reclined below horizontal, force of footward motion of said linear actuator on lower transfer link pivot point of said transfer link results in upward rotation of said pivot fixture, said calves section, said thigh section, and said feet elevating mechanism in an upward direction about distal end pivot of said pivot fixture until said projection of said pivot fixture engages said stop secured to said thigh section at a substantially horizontal position, further footward motion of said linear actuator results in rotation of said transfer link about transfer link fixture pivot of said transfer link resulting in lifting of said thigh section and said calves section and said feet elevating mechanism from resting points on said pivot fixture and calves section said stop, while elongating said lock spring.

6. The bed of claim 5 wherein said lower transfer link pivot is disposed along said pivot fixture wherein said linear actuator and said buttocks section form a double bar linkage resulting in substantially minor vertical movement of the foot edge of the said calves section of said coplanar leg section as buttocks section is reclined.
7. The bed of claim 2 further including a boxspring having a reduced thickness at the foot edge of said calves section whereby maximum downward tilt of said coplanar leg section can be realized.
8. The bed of claim 7 further including a fabric material, a peripheral frame and a peripheral frame spring wherein the said peripheral frame pivoted at distal end pivots, forms the lower edge of the foot end of the bed and along both sides of said bed at a substantial distance below the surface of said calves section and/or said thigh section and wherein the peripheral frame spring elongates when peripheral frame is rotated below the horizontal position about distal end pivots by force of the said calves section whereby the appearance of said boxspring of substantial thickness is made, and whereby a protective elongatable fabric type shroud encloses the moving parts.
9. The bed of claim 8 further including at least one cam and at least one cam follower wherein the said cam contour controls the elevation position of the said peripheral frame whereby said peripheral frame is prevented from resting on bed covers, blankets, sheets and /or floor, and whereby said peripheral frame can be elevated to a feet up position.
10. The bed of claim 2 further including a high frictional surface and relatively a low frictional surface whereby the said mattress movement on reclining surfaces can be controlled and said mattress crushes rather than lifts from surface when folded as said mattress slides upwardly along said low friction surface of said back section.
11. The claim of 10 further including a releasable mechanical holding device wherein said mattress is secured to surface of boxspring by releasable mechanical holding device.

12. The claim of 11 wherein said releasable mechanical holding device is secured at a sufficient distance inward from perimeter of said mattress between the surface of the mattress and bed surface to allow sandwiching of sheets and blankets along perimeter of said mattress.

13. The claim of 12 wherein said releasable mechanical holding device is a barb and loop type two part fastening material.

14. The bed of claim 2 further including a threaded coupling half, a fixed coupling half, a bearing, a thread spring, a thread wherein the coupling disengages during inhibited reclining motion by action of rotating said thread separating said threaded coupling half from said fixed coupling half along axis of said thread against compression force of said spring whereby free rotation of said threaded coupling half on said thread prevents further movement along length of said thread whereby angular free fall of more than 10 degrees is prevented after inhibition to reclining is removed.

15. The bed of claim 2 further including 4 section reclining bed that is a non wall hugger.

16. The bed of claim 3 further including reclining beds and reclining chairs wherein said reclining beds and said reclining chairs have said arm rest, said swing arm, and said variable position swivel lock attached.

17. The bed of claim 2 further including a foot rest area whereby body weight is transferred from lower back and thigh to the feet.

18. The bed of claim 3 further including a buttocks sling secured to said arm rest whereby a person can be elevated relative to the buttocks section by means of lowering the buttocks section whereby a bed pan can be placed or the user swung sitting up, in or out of bed by the arm, to a toilet device or wheelchair beside the bed.

19. The bed of claim 2 further including a power back arch mechanism wherein said mattress behind arch of back is moved to protrude in the direction away from the back section surface to change the curvature of the said mattress whereby change of position by adjusting spinal support increases the immediate and long term seating comfort.

20. The bed of claim 2 wherein said protrusion extends longitudinally along structural steel angle secured to lower surface of reclining section past pivot then tapered downwardly to lower edge of vertical non secured side of said structural angle steel whereby lower edge of protrusion engages stop and rotation is limited.

21. A book holder wherein the pages of an open book are supported on a support structure along top and bottom edge of open book pages whereby reading is viewed from a horizontal laying position viewing the pages at a substantially vertical angle beneath said book and whereby the pages are read between the support structure or through the clear support surface.

22. A reclining bed comprising;

a mattress, at least one linear actuator, a calves section and a thigh section having elevating double bar feet elevating mechanism whereby said calves section remains substantially horizontal during feet elevation, a back section that reclines pivotably about adjoining edge of a buttocks section in an upwardly direction,

improvements comprising;

wherein said thigh section and said calves section form a single rigid coplanar leg section that reclines pivotally below the horizontal plane of the said buttocks section in a downwardly direction pivotably about adjoining edge with said buttocks section.

23. The bed of claim 22 further including said buttocks section to recline pivotably in an upward direction about the adjoining edge of said back section wherein buttocks foot edge of said buttocks section is elevated from the floor whereby clearance is provided for

greater degree of downward tilt for said coplanar leg section, whereby a sit-up position with legs angled in a downward direction can be obtained from a conventional bed surface height, and whereby the body weight is transferred from the lower back to the lower thigh area of the body as the bed is reclined to the sit up position and whereby a permanently attachable desk becomes practical.